# THE JOURNAL

OF THE

OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XIX MUSKOGEE, OKLA., MARCH, 1926 NUMBER 3


## A SURVEY OF OKLAHOMA FLORA, WITH A STUDY OF ONE HUNDRED AND TWENTY-ONE CASES OF SEASONAL HAY FEVER*


RAY M. BALYEAT, A.M., M.D,

OKLAHOMA CITY


In connection with our study of 121 seasonal pollen hay fever cases during 1925 we finished a survey of the flora of Oklahoma. Of the cases studied 73 were diagnosed and treated prior to the season but in 48 cases patients were not examined until after the onset of their symptoms. These were given co-season treatment.

Our study of hay fever during the last seven years has made us realize that intelligent diagnosis and treatment of this disease cannot be done without knowing well the botany of the localities in which the hay fever sufferer lives. This conclusion led us to make a rather extensive study of the botany of Oklahoma and of Cleveland Counties, which are centrally located and whose topography is such that the flora is fairly characteristic of many other countries. Moderately detailed study has been made in other counties, and a map under construction showing the various predominating wind-borne pollinating plants in all the counties, will soon be finished. The state of California has been carefully studied by Professor H. M. Hall[1], George Piness[2] and Albert Rowe[3]. Such a study has been made by Watson and Kibler[4] in Arizona, Key[5] and Kahn[6] in Texas, and Duke[7] in Kansas and Missouri. Our survey was started two years ago and is just being completed. So far as we can find, the botany of our state has never been studied before with reference to hay fever and asthma. At least, a report of such a study has never been recorded in literature.

*Read before the Section on General Medicine, Neurology, Pathology and Bacteriology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

With the assistance of Professor T. R. Steman we were able to study the pollinating season, the amount of pollen produced, the size of the pollen and the extent of growth of plants in various localities. In Cleveland County we found 73 species of grasses. Similar studies were made of the amaranths, chenopods, the ambrosia group and other minor groups.

### TREES

Comparatively speaking, trees play a minor part as the cause of hay fever. The most active trees that we have as a cause are the cottonwoods and oaks. Cottonwood (*Populus deltoides*) begins to pollinate from the 5th to the 7th day of April and continues for about three weeks. Most of the patients give their history of onset of symptoms from the 7th to the 9th. The cottonwood is abundant in some sections, making it a common local cause, but in the entire western and northern sections of this state it plays no part at all. In certain localities in the easern and southern parts, along the lowlands of the streams, the cottonwood is rather abundant. Oak (*Quercus marilandica*) is the most common tree in Oklahoma. Its pollen is 20 to 30 microns in diameter and the pollen is fairly profuse. It would be a larger factor in the production of hay fever if it were not for the fact that its pollinating season is from the 15th of April to the 1st of May, during which time there is an abundance of rain. It so happened this year that April had practically no rain and we saw a large number of cases of hay fever due to oak. This vear is a very uncommon one.

### GRASSES

Within a radius of forty miles of Oklahoma City 79 species of grasses were found pollinating fairly profusely in September and October. Some of these grow profusely, making them an important factor in the cause of hay fever from May first, which is the date of onset of pollination of several, to November third, the average date of our first killing frost. The earliest

pollens found in the air were from slender fescue grass (*Festuca octoflora*) and chess grass (*Bromus secalinus*), but the amount of pollen is small, making them clinically unimportant. About May fifteenth, Bermuda (*Capriola dactylon*) begins its season of pollination, continuing until a killing frost. Bermuda grows on 98 per cent of the lawns in the state of Oklahoma, making it the most important factor of all our grasses, as the pollen is small (22 microns in diameter), is wind-borne, and located so near to the home of the sufferer. In the southern and eastern portions of the state Johnson grass (*Andropogon halepensis*) must be considered, as the amount of grass is fairly abundant and the pollen fairly profuse. It would be a great factor in these sections if it were not for the size of the pollen, which is more than 40 microns in diameter. The growth is chiefly in the lowlands away from many of the homes, which also decreases materially its importance. Indian grass (*Sorgastrum nutans*) is by far the most common grass in our state, but not unlike corn and Johnson grass, the pollen is very heavy, making it only an occasional offender. Pollen plating in the ordinary places where we put our plates will seldom pick up the pollens of Indian grass, but the pollens of Bermuda can be found in the air on any dry day, most anywhere in the cities and towns, from the first day of June to about the first of November. Many of the grasses that produce a small or moderate amount of pollen would not in themselves produce hay fever symptoms, but patients sensitive to one grass are so frequently sensitive to many, so the combination of several make the grasses a fairly important factor.

### CHENOPODS

Lambsquarter (*Chenopodium album*) is widely distributed throughout every section of this state, both the prairie and the wooded sections. The pollen is small and wind-borne, and commonly found on pollen plates. Patients are frequently found sensitive to it on testing, but clinically we believe that the pollen is not a very toxic one and not a big producer of hay fever symptoms. Russian thistle (*Salsola pestifer*) is very abundant in tne northern and northwestern sections of Oklahoma and there it is a very common cause. The onset of pollination of this plant is about July 10th.

### AMARANTHS

The amaranths, including *amaranthus spinosus* and *amaranthus retroflexus*, are widely distributed over the entire state; their pollination is fairly heavy in midsummer and one frequently finds patients sensitive to both amaranths, and one would naturally assume that the amaranths are a very common cause of hay fever from June 20th to the 1st of September, which is their pollinating season, but at the same time the amaranths are pollinating, the western water hemp (*Acnida tamariscina*) is also pollinating, and the number of plants of the western water hemp is probably twenty times greater than that of the amaranths, and the profuseness of the pollen is also very many times greater. From clinical experience we believe that the amaranth plays a small part as a cause of hay fever in July and August. We believe that the majority of these cases at this time of the year that are not due to Bermuda and Russian thistle are caused by the western water hemp. It is interesting to note that during this season, with the exception of Bermuda, the pollination of grasses is not very profuse.

### RAGWEEDS

Throughout all sections of Oklahoma there can be found growing three species of ragweed. The giant ragweed (*Ambrosia trifida*) and short ragweed (*Ambrosia elatior*) predominates in the eastern and southern sections, the western ragweed being found in small numbers. The short ragweek (*Ambrosia elatior*) and the western ragweed (*Ambrosia psilostachya*) grow very profusely in the western and northern sections. All three ragweeds are profuse producers of pollen. The average size of the pollen granule of the short ragweed is 15 microns, that of the western is 25 microns, and that of the giant is 20 microns. In some of the waste lands along the streams there are hundreds of acres of giant ragweed. Due to the size of the pollen, those sensitive to giant ragweed living in sections within a radius of ten to twelve miles of those lowlands, cannot get away from its pollen, and clinically we have found the people living in these sections to be great sufferers from it. In the cities and villages, nearly all the vacant lots are covered with the short or western ragweed, or both, bringing these plants very close to its victims. Our records show that 73 per cent of the hay fever people

tested are sensitive to one, two, or all three, ragweeds. The giant ragweed begins its season of pollination from the 14th day to the 17th day of August, the short and western ragweeds begin their season from the 18th to the 21st day.

### MINOR CAUSES

There are several other weeds, such as marsh elder (*Iva ciliata*) and cocklebur (*Xanthium echinatum*), which are profuse in certain localities, so they must be considered as a factor, Throughout the entire state we have one sage (*Artemesia kansana*) which is fairly profuse in some localities but not abundant compared with either of the three ragweeds. It has been our experience that the number of people sensitive to sage on testing, are comparatively few, and we doubt that it needs to be considered seriously in treatment. Some of the cultivated plants, such as corn (*Zea mays*) are the cause of a few seasonal cases if they are in intimate contact with the plants. On account of the broken lands of the eastern and southern sections, a large number of insect pollinating plants grow, which must be thought of as a cause of hay fever in the cases of some of the ladies who decorate their homes with the same.

### DIAGNOSIS

It is estimated by Sheppegrell[1] that one per cent of the people of the United States have seasonal hay fever. There are many cases of perennial hay fever, usually due to proteins other than pollens. However, many seasonal pollen cases go into the fall with irritable mucous membranes and continue through the winter as such, making them appear as non-seasonal cases. A detailed history of allergy in the family, onset of symptoms, personal history of allergy, and a knowledge of the flora in the locality in which the patient lives, and of the onset of the pollinating seasons of the various plants, and a detailed history of the symptoms which the patient can give, as lachrymating eyes, congested and itching nose, and itching of the roof of the mouth, will help very materially in differentiating a pollen seasonal case from other types of hay fever. If skin tests with pollen are all negative, in cases giving a history of definite seasonal hay fever, a greater variety of pollens should be used in testing, and then if negative, intra-cutaneous tests should be done, especially if the patient is over 40 years of age. The group of cases we are reporting are all private cases, studied in 1925, and vary in ages from 4 to 71 years. The average age of onset was 22.5 years. The average age at time of treatment was 34.3 years. Fifty-two per cent of all the cases gave a history of allergy on one side of the family, and seven per cent gave a bilateral family history. This makes a total of fifty-nine per cent with a history of allergy in the family, compared with 64.8 per cent with a family history of allergy, in a series of asthmatic patients under 12 years of age, which we have recently studied.

### RELATION BETWEEN HAY FEVER AND ASTHMA.

It has been estimated by some workers that at least 66 per cent of seasonal pollen hay fever patients either developed asthma from the beginning or some time later in life. 53 per cent of our series of 121 seasonal cases gave a history of frequent winter colds, 34 per cent with bronchial colds and 26.4 per cent with frequent attacks of asthma, complicating their hay fever. It must be kept in mind that the average age at which my patients were treated was 34.4 years. It seems reasonable by the time these patients continue their trouble for a period of years that they will develop asthma in the fifth, sixth and seventh decades of life, bringing the number of these cases with asthma as a complication up to at least 66 per cent.

### METHOD OF TESTING

The routine method of testing was the scratch (cutaneous) method, which has proven most satisfactory. Pollen extracts in strength of 1:50 were used instead of the dried pollen. In our series we found two cases, both over 40 years of age, with typical symptoms of seasonal hay fever, with negative skin tests, to be definitely positive to the intra-dermal test. It appears that patients over 40 years of age frequently lose their skin sensitivity, so in such cases giving typical seasonal hay fever history with negative skin tests, as obtained by the routine method, it is our custom to use intra-dermal tests. Constitutional recations may be met with, which is the objection to the intra-dermal test, but if the skin test is done first routinely, the patient in all probability will not be so sensitive that constitutional reactions will be obtained by using the intra-dermal. Working in this way we have seen no constitu-

tional reactions. We believe a reaction to be positive must consist of an irregular urticarial wheal with definite pseudopodia surrounded by an erythema. We have found several asthmatics over 40 years of age whose skin reaction, however, instead of being typical, as above outlined, was only a definite itching. In these cases when the intra-dermal was done, very definite positive reactions were obtained. Such slight reaction as itching must certainly be taken into consideration.

### POLLEN SENSITIZATION

The rule has been in our experience that hay fever patients show multiple sensitivity. There are many exceptions, however. Only 18 per cent of our cases gave a reaction to only one pollen, 74 per cent were sensitive to one, two, or all three ragweeds, 40 per cent to *amaranthus spinosus*, 43 per cent to *amaranthus retroflexus*, 33 per cent to water hemp, and 31 per cent were sensitive to the grasses, usually several grasses, Bermuda being the most common.

Bernton[9] has recently pointed out that patients may show cutaneous sensitivity without a sensitive mucous membrane. Clinically I have examined several cases which bear out this statement. These patients would show a marked clinical reaction to a pollen that is in the air in large amounts, but no hay fever symptoms. We must feel, however, that they are candidates for seasonal hay fever. It is not uncommon, as I have previously mentioned, to find patients with a sensitive mucous membrane but a negative skin reaction, These are the patients that Walker, several years ago, so frequently mentioned as typical asthmatics or hay fever patients over 40 years of age of the non-sensitive type. It is not uncommon to find a patient giving a history of typical seasonal hay fever, who has lost his hay fever in the fifth or sixth decade of life, but who has developed perennial asthma. The cutaneous tests again are usually negative but the intra-dermal may be positive. It is common to find patients showing skin sensitivity to many insect pollinating plants that are playing no part in their symptoms and must not be considered in treatment with the exception that they should be told to avoid such flowers in decorating their homes.

### TREATMENT

Before one can intelligently treat hay fever the pollinating dates of the pollens of the flora in the locality in which the patient lives must first be known. The history of onset of the patient's symptoms should be carefully taken and compared with the pollinating dates. The positive skin tests or intra-dermal, should be made, and these should be compared with the history and the pollinating dates. One must also take into consideration the extent of growth of the plant, the amount of pollen produced and the amount of pollen in the air at the time the patient's symptoms appear. This calls for pollen plating. By this process of reasoning the correct pollen for treatment can usually be chosen. Desensitization is just about as specific for pollen hay fever or asthma as is quinine for malaria or arsenic and mercury for syphilis, providing the offending pollen is selected for treatment and the treatment carried sufficiently high, but to treat a case of hay fever due to *acnida tamariscina* with *amaranthus retroflexus* with the hope of getting relief would be just as foolish as treating a case of sypnilis with quinine and wondering why the Wassermann reaction remained positive.

My experience with the specific action of pollens in therapy has been similar to that of Bernton[10], Piness[11], Watson, Rowe[12] and many others working in this field. I have desensitized patients sensitive to Bermuda with timothy extract, with only 25 to 30 per cent or no relief. These same patients treated with Bermuda extract would get excellent results in the majority of cases. I have had in times past the sad experience of treating many patients with *amaranthus retroflexus* who were also sensitive to *acnida tamariscina*, without results. A fairly large group of these same patients the season following were desensitized with acnida, with very pleasing results. Here again we find a similarity to the use of drugs. Certain arsenical preparations may be specific for one spirillum but only slightly beneficial in the treatment of others.

Such specific action of pollen is not in accord with some of the workers in this field, especially Goodale[13] and Sheppegrell[14], who still believe that a patient sensitive to a member of a plant family can be successfully desensitised to any other member of that family.

The pollen extracts we have used were made up according to the glycerol salt method described by Clock". The pollen from which the extracts were made was collected in the following manner: the plants were pulled up by the roots, the flowering top washed and the roots put in buckets of mud in a dust-proof room in such a position that the flowering top hung over glass plates. Each morning the pollens were swept up from the plates with a fine brush. The plants under such a condition will live, apparently normal, for four or five days. This allows us to obtain pollen which is free from dust and from leaves. Our products were all made up in 2% solutions.

Of the 121 cases treated, 73 were given pre-seasonal treatment, which is the method of choice. All cases were started with a dilution just greater than the weakest dilution to which they were sensitive Treatment eight to ten weeks prior to the onset of symptoms, giving doses at four and five day intervals. Our initial dose usually consisted of .15 c.c. of 1:10,000 dilution. The majority of patients would reach .1 c.c. of 1:50 dilution before constitutional reactions were encountered. Patients vary widely in their end-point dose, just as we see patients differ widely in their ability to take large doses of drugs. It has been our experience that unless the patients can take as high as .2 c.c. of 1:50 dilution relief from their symptoms will not be 100%, so we have tried various methods of overcoming the slight or great constitutional reactions obtained.

### USE OF ADRENALIN

For several year adrenalin has been used freely in overcoming the constitutional reaction obtained in treatment, after the reaction appeared. This we have used, and are still using, but we have used adrenalin in a different way this last season, with with some striking results. After the dosage would reach a point that the patient showed the slightest of constitutional symptoms or even a local reaction, we would put in the same hypodermic with their pollen protein .15 to .2 c.c. of adrenalin hydrochloride 1:1,000. We found by so doing that the protein would enter the system very slowly, allowing us to give patients much higher dilutions without constitutional reactions. It was not uncommon to find patients who gave a constitutional reaction at .35 of 1:250 dilution, in whom we would get a reaction on repeating the same sized dose, that, with the use of adrenalin, as above mentioned, we could carry the doses higher and higher each time until they would reach .2 to .3 c.c. of 1:50. This, in our judgment, is of great importance, as we all believe that it is very important to be able to carry the patient fairly high in their dosage. Walker many years ago pointed out this fact. Surgeons for a number of years have made use of adrenalin in retaining novocain in local areas for considerable time. In our work we consider it to have increased our results 20% to 30%.

### IMPORTANCE OF CONSIDERING MULTIPLE SENSITIVITY IN TREATMENT

Of our entire group, 80% were sensitive to more than one pollen. This makes it necessary to desensitize with more than one pollen if good results are obtained, in the majority of cases. As a rule, however, one or two pollens are the chief offenders and much care should be taken in selecting the one, two, or three from the many other pollens to which they may be sensitive. This we believe can be done by methods previously mentioned as to selecting the correct pollen.

### RESULTS OF PRE-SEASON TREATMENT

In this analysis we have considered complete relief in those patients who have no more symptoms than the average individual during their season, except possibly for very slight irritation of the nose, such as they would have in the winter time after a killing frost. This group comprised 28% of all cases. The second group who obtained relief except for some sneezing and a little congestion of the nose, but not enough symptoms to disturb them, made up 45% of the total. This makes 73% with practical or complete relief. A third group of 18% obtained relief from at least 60% to 75% of their symptoms. Of the remaining 9% only three were not benefitted at all. Six per cent received from 25% to 50% relief. I firmly believe that in those cases that obtained no relief, either the correct pollen or pollens were not used in treatment or the treatment was not carried sufficiently high, and also in those patients with only partial relief, that the same thing is probably true.

### RESULTS OF CO-SEASONAL TREATMENT

During the season 48 patients presented themselves for treatment. Of this number

we were surprised to find 33% lose more than 90% of their symptoms. Of the remaining, 20% received more than 75% relief, 24% more than 50% relief, and 15% noticed some relief, with only 8% reporting no relief at all. We attribute the high percentage of relief during the season to the fact that we carried their dosage fairly high with the aid of adrenalin, which we believe could not have been done without such aid without encountering marked constitutional symptoms.

## CONCLUSIONS

(1) Intelligent diagnosis and treatment of seasonal pollen hay fever cannot be done without a thorough knowledge of the flora of the community in which the patient lives.

(2) A careful history of symptoms and onset of symptoms should be taken.

(3) In Oklahoma, western water hemp (*Acnida tamariscina*) is next to ragweeds as the most common cause of hay fever, Bermuda ranking third.

(4) The average age of onset of our patients was 22.5 years.

(5) The number giving a history of asthma, complicating hay fever, was 26.4%.

(6) The scratch method of testing is the method of choice to be used routinely, but the intra-cutaneous method many times is indicated in patients over 40 years of age.

(7) Multiple sensitization was found in 82% of the cases.

(8) Pre-seasonal desensitization is without question the method of choice. Seventy-three per cent of the cases received either complete or practical relief.

(9) Co-season treatment is certainly justified, as 33% of our cases received more than 90% relief.

(10) Pollen desensitization is about as specific for seasonal pollen hay fever as is quinine for malaria if the correct pollen or pollens are selected and the treatment carried sufficiently high.

(11) Adrenalin hydrochloride given in the same hypodermic with the higher doses of the pollen extract permits more thorough desensitization without constitutional symptoms.

## BIBLIOGRAPHY

1. Selfridge, Grant; and Hall, H. M.; Spasmodic Vaso-Motor Disturbances of the Respiratory Tract, with Special Reference to Hay Fever, California State J. Med. 16:164 (April) 1918.
2. Piness, Geo.: Study of Two Hundred and Two Cases of Hay-Fever, J. A. M. A. 84:584 (Feb. 21) 1925.
3. Rowe, Albert: Personal Communication.
4. Watson, S. H. and Kibler, C. S.: Etiology of Hay-Fever in Arizona and the Southwest, J. A. M. A. 78: 719 (Mch. 11) 1922.
5. Key, S. N.: Texas State M. J. Jan. 1922.
6. Kahn, I. S.: The Botany of Southwest Texas, with Reference to Hay-Fever and Asthma, J. A. M. A. 82:871 (Mch. 15) 1924.
7. Duke, W. W. and Durham, O. C.: Botanic Survey of Kansas City and Neighboring Rural Districts, J. A. M. A. 82:939 (Mch 22) 1924.
8. Sheppegrell, Wm.: Hay-Fever and Asthma, p.18.
9. Bernton, Harry S.: Annals of Clinical Medicine, Sept. 1925, IV. 230.
10. Bernton, Harry S.: Treatment of Seasonal Hay-Fever and Some Possible Causes of Failure, J. A. M. A. (May 5) 1923.
11. Piness, Geo.: Results of Treatment in a Series of Cases Treated with Timothy Extracts that were Sensitive to Ray Grasses. (Personal communication).
12. Rowe, A. H.: Personal communication.
13. Goodale, J. L.; Pollen Therapy in Hay-Fever, Boston M. & S. J. 173:42 (July) 1915.
14. Sheppegrell, Wm.: Hay-Fever and Asthma, p. 225.
15. Clock, R. O.; A Stable Pollen Antigen, J. Infect. Dis. 21:387, Oct. 1917.

# INJURIES TO THE SMALL BONES OF THE HAND AND WRIST*

FRED Y. CRONK, M.D.
TULSA

This paper is to present certain facts concerning small bone injuries, with special reference to the wrist joint and hand areas, emphasizing the necessity for X-ray study of the carpal area, so that we may avoid the disappointing results following improper immobilization in patients where definite injuries exist. The percentage of fractures of carpal bones to other fractures in this area is variously estimated from one and one-half to as high as four per cent. There are many injuries in the carpal region considered trivial, and treated without any special support, or possibly splinted for only a day or two, which later present the picture of a definite arthritis, which is spoken of as an *"arthritis manus post-traumatica."* Even when these injuries are supported for a week or two, we may develop a similar condition which emphasizes the necessity of watching these cases most carefully until it is definitely established that the patient is getting well. Where the injury is most severe, the arthritis may become general through the carpal bones, as well as the larger wrist joint, even though immobilization is con-

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

tinued over a period of many weeks. I have in mind two cases: One, a man thirty years of age sustained a Colles fracture of the right forearm, with considerable jamming of the whole wrist area. The forearm and hand were bandaged for eight days, at which time X-ray was made, revealing the fracture. There was considerable swelling present. The fragments were in good position, so that no manipulation was done, and on the eleventh day following the injury, splint was applied, and kept in position for six weeks following the injury. The patient then attempted to use the hand and wrist, but there was much stiffness and discomfort, and eight weeks following the injury an X-ray showed a definite arthritis of the whole wrist area. There was no clear outline between the bones. This hand was put back on a splint to allow discomfort and swelling to subside. In about ten days splint was removed and the hand carried in a sling, but as soon as there was an attempt to use the wrist, the swelling again appeared, however, with less discomfort. A very light splint was again applied for ten days, after which the swelling did not occur to any extent, but there was still the discomfort on attempting motion. At this time, gentle massage was given to the forearm and hand; gradually beginning a little passive motion of the wrist. With the first passive motion there was no increase in either swelling or discomfort. However, at the end of two weeks more energetic massage and passive motion produced swelling for four or five days, during which time only massage was used. By this time we had pretty well determined the speed with which to increase manipulations and about sixteen weeks following the original injury, the injured began moderate work. Extreme motion in any direction remained painful, and especially when flexing the hand to the ulna side. However, there was no swelling and the man developed practically full power when the wrist is kept within the extreme motions.

The second patient: A man, injured December 9, 1924. *Diagnosis, was sprain of the left wrist.* The splint was applied to the forearm for about twelve days, after which he attempted to use the member. Swelling continued, and on January tenth, he came under our care. X-ray was made of hand, which showed an arthritis, involving entire left carpus and wrist. There was no fracture. The picture suggested an infectious arthritis, as there appeared to be considerable bone erosion, and the usual marked clouding of of all joint spaces. On January 12, the eroded bone area was opened, just outside of the extensor tendons of the index finger, in the area of the os magnum, trapezoid and scaphoid. The bone was soft but there was no pus, nor did we obtain any culture. The wound healed quite promptly, and the hand was continued on a splint, and treated similarly to the injury above mentioned. This splint was removed from time to time in an attempt to begin massage and light passive motion, after reduction of swelling with forearm on splint; but each time the swelling and discomfort would immediately recur. It was not until March 14, that we were able to begin the massage, and it was not until March 28 that passive motion was lightly begun. Beginning about one week following the operation, dry heat was given, in the form of electric light, and this was continued throughout the massage treatment. This treatment was continued until the last of April. The swelling and discomfort had practically disappeared, but the stiffness of the wrist and fingers still prevented flexion to more than one-third the normal. There was no grip, as the fingers could not be flexed sufficiently. At this time a glove with a leather band around the wrist to prevent slipping and afford attachment for finger-pull, was applied, the glove fingers having attachments for pull, which would exert a constant traction and increase the finger flexion. The patient is now at his home, continuing this treatment, and while there will be some permanent disability, I feel very sure that we will have a good working extremity.

This is an injury to the wrist without fracture, developing an arthritis of the traumatic type, exaggerated by too short a period of immobilization, immediately following injury.

Too long a period of splinting, we all realize, is not good treatment in fracture cases, as it materiall prolongs the disablity period. But in the type cases, just cited, it is most essential that we follow the injury very closely, beginning the massage and manipulative treatments, noting their effect, so that we may not lose a day more than necessary in trying to limber up the member. It is essential to remember that too early manipulations may not only increase the swelling and discomfort, but

may produce a similar condition to that of lack of proper early immobilization; that is, a breaking down of the bony structure, giving a fertile field for implantation of infection from some focal lesion.

"The stiff hand" is a very lamentable condition, both to the injured and the surgeon. Much work has been done along reconstructive lines in surgery of the hand. The most satisfactory reports that I have seen coming from the work of Sterling Bunnell of San Francisco. However, it is not the purpose of this paper to discuss reconstructive measures, but to give as much as possible to the prevention of the formation of conditions which need reconstructive measures. Many times the surgeon is criticized for such close observation of sprains by those who may be financially interested in the the office consultations. This should not be the case, for it is the proper determination of time for removal of splints that gives us the best functional results.

I was interested in a grouping of the causes of the rigid hand by S. Ciaccia:

*First*: Adhesion in the tendons and muscles of the forearm.

*Second*: Prolonged immobilization in splints.

*Third*: Changes in the joints themselves.

*Fourth*: Infections and changes in the tissues of the hand.

The second and third causes are the conditions above considered.

The treatment as advocated by Ciacca is along the lines as above described. Hot soaks, Bier hyperemia, massage, active and passive movements, splints to force the fingers into flexion and traction to force the fingers into extension. Also forcible manipulations.

Of the carpal injuries where the individual bones are considered, the scaphoid and semilunar are possibly the ones most frequently before us. The scaphoid may be fractured without other wrist injuries though when it occurs, it is often associated with dislocation of the semilunar; and, I might add that when the two conditions occur, the diagnosis is much easier than with a fracture of the scaphoid alone. The treatment of the combined injury is most important, as displacements in this area usually give us a painful hand. Manipulation under the fluoroscope is the best way of getting the desired results. The cockup splint should be used for ten days, with massage, beginning as soon as the swelling subsides (four to six days) and passive motion beginning in ten or twelve days following the injury. But here, again, pain and swelling are the criterions by which we judge passive motion or rest with the continued use of splint. Should there be no improvement at the end of two weeks in the swelling, a roentgenogram should be made to note any arthritic changes. If arthritic changes are definitely noted immediate removal of the bone is indicated. Either treatment promptly and efficiently carried out, should give excellent results. With the semilunar dislocation alone, there should be no trouble in reduction during the first twenty-four hours. However, if the diagnosis is not made early, and pain and discomfort exist, it is best to remove the bone.

Goldtwait mentions the "flat hand", and calls attention to the maintenance of the carpal arch, and the necessary part which it plays in the proper function of the hand. When this arch flattens the palmar tendons are no longer held in place by the hook of the unciform, and the trapezium; and a weak and painful action results.

In cases where this has occurred, he suggests a light wrist strap, with two pelots, one on either side of the trapezium, and a thumb loop to retain strap in place. The arch may thus be restored, and function rendered painless.

## CONCLUSIONS

(1) Early diagnosis and treatment usually result in a useful hand. (2) Manipulations should be made under fluoroscope, when possible. (3) In late diagnoses, do not hesitate to remove the bone. (4) Use early massage and passive motion, as soon as pain and swelling subside. (5) X-ray of wrist and hand should be most carefully examined, for carpal injuries even though they are not suspected.

# WRIST JOINT INJURIES, A PLEA FOR GREATER ACCURACY IN TREATMENT*

EARL MCBRIDE, M.D., F.A.C.S.
OKLAHOMA CITY

There is perhaps no fracture of which more has been said, none which is simpler to care for and no deformity which is so frequently seen as that resulting from Colles fracture.

Before the advent of the X-ray and of compensation insurance it was not so difficult to satisfy the victim of this injury. Now, however, a great deal more accuracy is demanded. The patient and relatives must see the X-ray. Industrial disabilities are measured in dollars and cents and permanent impairment of function means, not only financial loss to all parties concerned but often casts embarrassing reflections upon the surgical skill of the attending physician.

In view of the fact that the subject is one with which every physician is supposed to be well acquainted, there seems to be no other explanation for the frequency of bad results than that there is often a lack of thoroughness in undertaking treatment. A fracture case is frequently of more risk to the physician's reputation than surgery of a more serious character, yet it is often approached in an attitude of indifference. Nature, fortunately, is kind in most instances of fractured bones but cannot always be relied upon to mask mistakes or carelessness and it is not pleasant to have what may be termed a "walking exhibition" of a poor result.

The day of the "grab and pull" method is past. All of us were taught some particular grip or hold which would successfully reduce Colles fracture. But dependence upon the "pistol grip" or any other blind manipulation is unscientific and unsafe practice.

The use of the anesthetic and the X-ray are to fractures, what asepsis is to open surgery, and the physician who fails to make it a rigid rule to insist upon their use is inviting trouble. We still find in our latest textbooks on fractures such statements as "Occasionally an anesthetic must be given," or, "there should be no necessity of waiting for an X-ray before reduction." In fact much of the material of our present day books on fractures may be found in texts as far back as 1870.

With this bit of criticism before us let us turn our attention to a few suggestions that will aid in securing more accurate results in wrist joint cases.

The first essential is to have an intelligent working knowledge of the case at hand. In spite of what Cotton and other authorities say, a preoperative diagnosis is not complete without an X-ray. There are two reasons why no attempt should be made to reduce the fracture until an X-ray is made. One is that it is the only means of gaining definite information as to structural damage and the other is that there will be little difficulty in persuading the patient to go to the X-ray while he still has pain and deformity. Then, too, when the fracture is reduced before X-ray is taken there is always the temptation to both doctor and patient to leave good enough alone. This policy is apt to prove disastrous in time.

There are about eight or ten varieties of fracture of the lower end of the radius. According to Salmond and Knox, Lancet, Nov. 2, 1912, they occur according to frequency as follows: Transverse, 67 per cent. T shape, 16 per cent. Fracture from the center of the lower end across the styloid process 8 per cent. V shape, 3 per cent. Styloid, 3 per cent. Oblique, 1 per cent. Longitudinal, 1 per cent. Inferior radiolunar articulation, 1 per cent.

When fracture of the radius is not found careful examination of the radiograph should be made for other injury. Fracture of the carpal scaphoid is next in frequency to Colles fracture. Dislocation of the semilunar bone is the next. Either of these or a combination of the two may simulate Colles fracture and the X-ray is the only accurate means of differentiation. Failure to diagnose these injuries means certain, permanent disability, of severe type.

When none of these injuries are found it is necessary to exclude the following injuries before a diagnosis of sprain is made: 1. Fracture of the trapezium. 2. Fracture of the first metacarpal. 3. Fracture of the os magnum. 4. Fracture of the semilunar. 5. Fracture or dislocation of the pisiform. 6. Fracture of the unciform.

*Read before the Section on Surgery and Gynecology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

The X-ray technic and intelligent interpretation of the plates are also important factors. The surgeon responsible for the case should know enough about X-ray technic and interpretation of the negative that he will not have to depend upon someone else for his information. First, he should know the different positions in which parts may be radiographed in order to show extent of injury. Second, he should be able to interpret the multiple overlapping bone shadows in each position. Third, he should be acquainted with the common errors of tehcnic and false shadows of a defective film.

Possibility of error will more often be avoided if the normal wrist is radiographed in the same positions as the injured member. A lateral view with the

FIG. 1. DISLOCATION OF SEMILUNAR BONE FORWARD AS INDICATED BY ARROW.

ulna next to the plate and antero-posterior view with palm down are of course necessary in every case. I wish to emphasize the importance of having the wrist exactly perpendicular with the plate and the X-ray tube centered squarely over the wrist when the lateral view is made. An oblique position will give a false impression of displacement.

There are two positions frequently used by the writer which are very valuable in determining injuries to the carpal bones in that they lessen the confusion of overlapping shadows. One, pronation oblique (semipronation) in which the lateral plane of the wrist forms an angle of 45 degrees between the plate and the palmar surface, gives a clear outline of the trapezium, trapezoid, base of the first metacarpal and radial styloid. It also gives an oblique view of the scaphoid which is essential in questionable fracture of this bone. The other position is that of suppination oblique (semi-supination) in which the lateral plane of the wrist forms an angle of forty-five degrees between plate and dorsal surface, clearly reveals the head of the ulna, pisiform and the cuneiform bones.

Stereoscopic views are also of considerable value in the diagnosis of slight fracture or displacements of these bones.

### TREATMENT

In reducing a Colles fracture it matters little what technic is used. The important feature is to be certain that it is completely reduced. Here again one must insist upon the use of the X-ray. Certainly in lieu of present day facilities one cannot claim to be scientifically accurate without taking into consideration the actual bone shadows. In fact the X-ray should be used before reduction, during reduction and after reduction. Routine technic in the writer's practice is as follows: After preliminary study of the clinical and X-ray manifestations, the patient is anesthetized upon the X-ray table. When the reduction is thought to be complete it may be viewed by the fluoroscope and if satisfactory, splints are applied while fragments are held in place. Lateral and antero-posterior X-ray views are again made after splints are applied for the purpose of permanent record. The patient is then informed that the arm must be examined again in twenty-four hours whether it feels all right or not.

It is believed that reduction often fails because the hand is simply pulled upon without any definite effort being made to manipulate the lower fragment. The method of reducing the fragments as employed routinely by the writer is as follows: The fragments are grasped by the thumbs and fingers of each hand so that the fracture line lies directly between tips of thumbs which are placed lengthwise and opposing each other on the dorsum of the radius. If the surgeon is right handed he will stand in a position to use his right thumb on the lower fragment. If left handed, it will be the opposite. The first movement is to break up the impaction and to increase the deformity by dorsiflexing the lower fragment. When it is brought as far backward as possible, place thumb of upper hand on nail of the lower thumb and make as much traction as possible with both thumbs. Then while traction is continued, force the lower fragment downward and

forward into position. Lateral displacement will usually be cared for at the same time if the downward movement is toward ulnar flexion. If the X-ray does not show satisfactory reduction, the same motion can be repeated. Occasionally the lower fragment will be found to be unusually movable and easily forced too far forward. While such position must be carefully guarded against, it leaves much less apparent deformity than slight backward rotation, or displacement. Exaggeration of

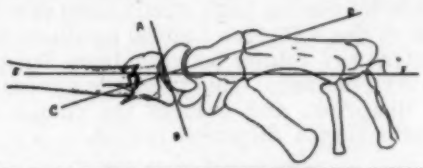


FIG. 2. COLLES FRACTURE BEFORE REDUCTION. IT IS VERY IMPORTANT TO CORRECT THE DEFORMITY OF BACKWARD ROTATION AS REPRESENTED BY THE LINE C-D.

the deformity while making traction is the secret of success in bringing down the lower fragment. Straight traction on the hand without this is usually futile.

Now what may we call satisfactory reduction? Certainly we should not be satisfied until the X-ray shows normal lines of contour not only in respect to overriding of fragments but particularly in respect

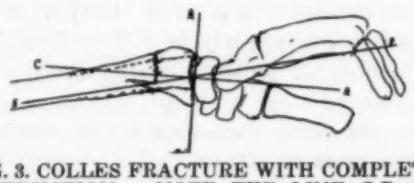


FIG. 3. COLLES FRACTURE WITH COMPLETE REDUCTION. NOTE THE LINE C-D AS COMPARED WITH FIG. 2.

to rotation of the lower fragment, because anything other than perfect reduction is bound to leave discernible deformity. What may appear to be complete reduction, may still show upon close inspection of the lateral view, that the distal fragment is not fully rotated forward and downward.

The X-ray of the normal radius will serve as a guide. It should be observed that in the lateral view of the normal radius the articular surface seems to face slightly downward towards the thumb. In Colles fracture it rotates upward so that it more nearly faces the knuckle. Correction of this rotation is the most important part of reduction.

Dorsal and ventral plaster splints lined with sheet wadding or a thin layer of cotton, are used routinely. They are made of about 12 laps of three-inch plaster bandage, the length of the forearm, from elbow to knuckles, and moulded to the arm while the wrist is held in the desired position. The knuckles and thumbs should not be immobilized. Flexion of the wrist position as taught by Cotton and others may be of some assistance in maintaining alinement but it is a dangerous position in which to leave the wrist unless one has control of the patient, because stiffness in this position is very difficult to overcome. Slight dorsiflexion is much safer and the fragments are not apt to become displaced if they have been completely reduced and held in place while the plaster splints are moulded to the arm.

Adhesive plaster should not be used around the arm on first dressing. A gauze roller bandage rolled around the wet splints is all that is necessary. So much has been said about the disastrous results of tight bandages that it is not necessary to repeat here. When the patient reports at the end of the first twenty-four hours and complains of pain, there is something wrong: look for it! Make certain the cause is removed even if the patient must be anesthetized and the fragments replaced again. It has been observed that in nearly every case of stiffness and permanent disability there is history of undue swelling and pain.

It can usually be determined within ten days whether or not stiffness is likely to complicate matters, If reduction is complete and satisfactory there is nothing left to do except to institute early passive and active motion by removing the splints daily in the office. It should not be left up to the patient.

In fracture of the carpal scaphoid, bony union is rarely obtained. It is the feeling of the writer that this is because the diagnosis is seldom made early enough to secure immediate immobilization. Another error is the common practice of relying upon adhesive plaster strapping in what is thought to be only a sprain of the wrist. Ten days or two weeks of immobilization is much safer practice and is the best treatment even if the case is only that of simple sprain. Complete immobilization of the wrist may be tried even in neglected cases of fracture of the scaphoid. If pain

and tenderness persist then removal of the proximal fragment or perhaps the whole scaphoid is indicated. This is best accomplished through a posterior incision.

Where the carpal semilunar is dislocated it can usually be replaced by closed manipulation within the first few days after the accident. Normal function is established within four or five weeks when completely reduced. At the end of three weeks it is almost impossible to replace it even by open operation, because of firm adhesion to the anterior surface of radius, and contraction of ligaments about its former berth. It can be replaced by dorsal incision but removal is better accomplished by anterior incision made along the ulnar border of the palmaris longus.

Where the fracture of the scaphoid and dislocation of the semilunar occur together the best treatment is removal of the semilunar and proximal fragment of scaphoid, unless they can be completely reduced and immobilized within two or three days after the accident. The anterior incision along the ulnar border of the palmaris longus is preferable.

A variable amount of disability is the rule after removal of the carpal bones. However, the gain in function and relief of pain are usually sufficient to justify the operation.

---

*DISCUSSION:* DAN GRAY, M.D., GUTHRIE.

It is very plain to see that Dr. McBride is making no attempt to exploit anything new or startling. During the past several years it has been our privilege to see this subject handled from one angle or another by the same author in more than one medical publication.

The importance of this subject is unquestioned. The merit of this paper is apparent. None can appreciate its importance more than this Surgical Section. However, its message would perform a larger service if presented to the men of the non-surgical sections.

In the gentlest and most delicate manner, Dr. McBride infers that, out in the field, Colles' fractures are not receiving the skilful care that the best surgical practice affords. In the interest of the patient the best of care is none too good; and there is no good reason why an unskilful physician should subject the patient to the risk of uncertain results simply because he happened to be the first doctor to arrive on the scene of accident.

The procedure for dealing with Colles' fracture as described is distinctly good. It should not be inferred—and it is not so inferred by the essayist, that this procedure will always apply to the average "Ford Kick" fracture of the wrist. Few "Ford Kick" fractures assume the Colles' tpye, nor is the injury to the soft parts the same.

I believe the best radiograms can be taken by placing both wrists close side by side in the A.P., then Lateral positions, the central ray falling between them from a 36 inch distance. This gives the minimum of distortion and reduces the chance of overlooking a displaced carpal.

---

## RECTAL ANALGESIA COMBINED WITH ETHYLENE OXYGEN IN OBSTETRICS

CHARLES E. WHITE, M.D.
MUSKOGEE

The use of rectal analgesia as carried out by the Gwathmey technic is gaining rapidly in favor and has filled a long demand for some method to ameliorate pain in child birth. While this method does relieve the pain to a great eextent in all cases and completely in a few, there are a number of patients during the end of the second stage of labor who do not obtain the relief they expect and which is often promised them.

To overcome the pain in these cases, I have recently been employing ethylene oxygen with rectal analgesia and the results have been very gratifying. I find the analgesia obtained much more satisfactory than that obtained by delivery under ethylene oxygen or rectal analgesia alone. In a small series of cases, my observation has been that analgesia is quickly obtained and easily maintained at the desired level, a condition which is much harder to secure with other anesthetics. There is no slowing of labor as we have with ether or chloroform. However, prolongation of labor may easily occur with the addition of ethylene oxygen to the rectal analgesia but, this is not likely to occur if care is used in administration.

The administration of ether for rectal analgesia is carried out as outlined in the Gwathmey technic with the exception that the second hypodermic of morphine and magnesium sulphate is not given nor is the magnesium sulphate alone repeated. Labor is allowed to progress following the rectal analgesia until the patient complains of pain then ethylene oxygen is administered. It is best to instruct the patient before administrating the ether analgesia, that, when the ethylene is given, they are to take a long, deep breath, exhale; another deep breath, exhale, and to hold the third breath, bearing down at the same time. Impressing this on the patient makes it easier for them to carry out the same instructions while in a semiconscious state.

A mixture of twenty per cent oxygen with eighty per cent ethylene is usually sufficient to reinforce the rectal analgesia; occasionally fifteen per cent oxygen and eighty-five per cent ethylene is required, the variation in mixture depending on the analgesia necessary. However, as high a percentage of oxygen is used as will give satisfactory results. Some patients move about the table and carry on incoherent conversations if too strong a mixture of ethylene is given. They are usually easily reassured by talking to them.

The expulsion of the presenting part is controlled by continuing the administration of ethylene. A change in mixture of the gases is seldom required. The degree of analgesia or anesthesia is readily secured by the continuous administration of the ethylene. Complete relaxation of the perineum is obtained and this results in fewer episiotomies and lacerations. The readiness of anesthetizing a patient is a decided advantage if it is necessary for any operative procedure.

Two of my cases complained of some pain. They had received their rectal analgesia four hours previous to the administration of ethylene. I find it best to repeat the rectal analgesia after four hours have elapsed if the patient is not ready for delivery, as is done when the rectal analgesia is used alone.

In usinge the rectal analgesia combined with oxygen, there has been no prolongation of labor. The patients rest and often sleep between pains, but the interval between pains is not delayed if the gases are administered properly. Respiration begins in the baby as quickly as with any newborn. Their color is good and cyanosis has not occurred in any of my cases.

After delivery, the patient is usually awake, remembering very little, if anything, about her labor. Occasionally, patients with quick labors remain under the rectal analgesia for a short period, but not from the effect of ethylene.

In the operative field of obstetrics my experience, with this method, has been limited. I have had one podalic version and two low forcep deliveries. In each case the patient was given a mixture of twenty per cent ethylene and eighty per cent oxygen and complete relaxation secured.

It is not necessary to have a trained anethetist to administer ethylene oxygen by the method given above, provided, the obstetrician understands the apparatus used, and it is so constructed that the percentage of the gases given will remain constant. However, great care must be exercised to prevent the possibility of an explosion. This danger must be impressed on all who are in contact with ethylene gases.

REFERENCES

Gwathway, American Journal of Obstetrics and Gynecology, August, 1924, Vol. VIII, pages 154-163.
King, American Journal of Obstetrics and Gynecology, June, 1925, Vol. IX, pages 835-837.

—o—

## THE CORRELATION OF SURGERY AND RADIOTHERAPY*

M. M. ROLAND, M.D.
OKLAHOMA CITY

At the time of the construction of this great republic, the mottos: "In unity there is strength", and "Together we stand, divided we fall", were no more applicable than they now are to the different branches of medicine, surgery and dentistry.

Since the inception of aseptic surgery, no science has made a more rapid and substantial progress. Radiotherapy has enjoyed an equal development to that of surgery within the last two decades.

In occasional instances the surgeon has felt that the radiotherapist infringed upon, or tried to infringe upon, his field of practice. In other instances the radiotherapist has felt that the surgeon attempted to do by surgical means, that which should have been accomplished by radiotherapy.

*Read before the Section on Genito-Urinary, Dermatology and Radiology, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

In reality there is no more reason for rivalry or jealousy between surgeons and radiotherapists than there is between the oculist and orthopedist. Every case is either surgical or not; and if not, it should be treated by radiotherapy or a combination of surgery and radiotherapy.

In the treatment of deep seated malignancy is found the field of the greatest difference of opinion. The statistics of neither method of treatment, surgery or radiotherapy, are so good that their adherents have cause to boast.

It is the border line cases that offer the adherents to the two methods of treatment an opportuniy for revenge. The radiotherapist may see a case, which in his judgment is too far advanced for surgical treatment, and in which the patient may be a little averse to surgery, and easily persuaded against surgical treatment ana begins X-ray and radium treatments. All will be well if the case responds well to the treatment, which they frequently do for the first few weeks or months. In the great majority of cases, after the period of improvement, will come the period of reverse. At this time the patient may apply to the surgeon for relief, and the surgeon has his chance to deride radiotherapy if he is inclined to do so. He will naturally wonder if the case was not a surgical one at the time X-ray and radium treatment was started, and if he is not careful and thoughtful he may intimate to the patient that such was the case.

On the other hand a case might be operated and the radiotherapist consulted neither before nor after the operation. In a few months evidence of metatasis or recurrence may show up. The patient then turns to the radiotherapist who is also prone to express his astonishment that the surgeon would operate a case so far advanced, and astounded that he did not advise radiotherapy before or after operation.

In the above illustration both the surgeon and the radiotherapist are in error, neither one knowing the result would have been better had the method of treatment been reversed in each case.

The point that I am trying to make is that we should always be careful about the criticisms we make of others' efforts and judgment. The value of surgery is so well proven that it does not behoove anyone to attack its merits. Even in malignancy it cannot be dispensed with. In fact, many of the leading surgeons would be delighted to give it over to any better method.

Radiotherapy nas proven its worth in the treatment of malignancy and it is not becoming of a surgeon to minimize it. In fact, the fair-minded surgeons do not, and they accept it as an aid whenever advisable.

We should remember that the strongest characteristics of malignancy are metastasis and necrosis; and it is much better, when we see a case that has been treated either by surgery or radiotherapy, and metastasis has taken place, to explain to the sufferer that it has taken place in spite of treatment, instead of because of it. Every day we see someone who has been advised not be treated by surgery because "the knife scatters" the malignancy; and just as often the same criticism of X-ray and radium. These untrue criticisms often start from surgeons or radiotherapists and always react to their detriment as well as to the detriment of the ethical profession.

Good results depend more upon an early diagnosis and early, thorough treatment than upon the method of treatment.

—o—

## RESEARCH RESULTS

Recent research in the field of medicinal chemistry, coupled with scientific physiological and clinical investigation is effecting profound changes in the practice of medicine.

Discoveries have already been announced which are changing the methods of treating diabetes, high blood pressure, and syphilis. So promising is the research work now being carried on in universities, and by large pharmaceutical manufacturers, that further important discoveries may even be made in the fild of cancer and tuberculosis.

During the past year, announcement of the discovery of several new and important medicinal chemicals has been made by the Research Department of the Abbott Laboratories, North Chicago, Ill. Among these discoveries are Butesin Picrate, a new chemical body, containing both anesthetic and antiseptic properties.

Other important research results from the Abbott Laboratories are Butyn and Benzyl Fumarate, both of which are fully described in "New and Non-official Remedies."

During the past ten years the following important Council-Passed medicinal chemicals have been manufactured by, and added to the list of the Abbott Laboratories: Anethesin, Acriflavine, Barbital, Chlorazene, Dichloramine-T, Cinchopen, Neocinchopen, Neutral Acriflavine, and Procaine.

The notable additions to the list of American made, medicinal chemicals promise much for the future cordial relations between scientific, manufacturing chemistry and progressive medical practice.

# THE JOURNAL

OF THE

**Oklahoma State Medical Association**

Issued Monthly at Muskogee, Oklahoma, under direction of the Council

Vol. XIX MARCH, 1926 No. 3

DR. CLAUDE A. THOMPSON.....Editor-in-Chief
Barnes Building, Muskogee, Okla.

DR. P. P. NESBITT.....Associate Editor
Palace Building, Tulsa, Okla.

Entered at the Post Office at Muskogee, Oklahoma, as second class mail matter, July 28, 1912.

This is the official Journal of the Oklahoma State Medical Association. All communications should be addressed to The Journal of the Oklahomo State Medical Association, Barnes Building, Muskogee, Oklahoma. $4.00 per year, 40c per copy.

The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, birth, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Adversiting rates will be supplied on application.

It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

PRINTED BY HOFFMAN-SPEED PRINTING CO., MUSKOGEE


## *EDITORIAL*

### OKLAHOMA'S CRIPPLED CHILDREN

Last fall, at Oklahoma City, there was organized a branch of a National organization, known as the Oklahoma Society for the Care of Crippled Children. The organization is fostered by a very representative body of citizens, the financing for the preliminary work made possible by a liberal donation from Mr. Lew Wentz, of Ponca City. The first object of the work is to make a survey of the cripples of the State. This is done by representatives of the Society, who visit the various counties, make arrangements for a clinic, arrange dates, etc. Clinics are held by representative men of known surgical ability, who only make examinations and follow them with the recommendations they deem fitting to the case. So far the work, only just started, has met with fair success. Many cases have been found wherein remedial mesaures will vastly benefit, possibly entirely cure the unfortunate. It is regrettable that many are found who can never be benefitted by any treatment.

The medical profession in every county so visited should lend its cooperation to the utmost. The cases as a rule cannot be successfully treated by the general practitioner, at least they have not been. The child nor its parents, often are unable to pay anything for the necessary care looking to betterment or cure, in fact it is work stimulated only by zeal and self sacrifice upon the part of the surgeons holding the clinics. Timely efforts applied at the proper stage may save the child a life of helplessness, eventually make him a self supporting independent citizen. Certainly this work can have no criticism levelled at it. We should give it our whole support.

### ON WORKMEN'S COMPENSATION

The following letter is reproduced for the reason that there has been for a long time a general muttering of dissatisfaction over the state anent the practices noted. The complaints come from many men of responsibility, whose statements and opinions cannot be ignored, or dismissed on the theory that the complaint has mere personal grievance as stimulus.

Dr. Claude Thompson, Secretary,
Oklahoma State Medical Association,
Muskogee, Okla.

Dear Dr. Thompson:-

At several state medical meetings, the relation of the doctor to workmen's compensation insurance has been discussed but nothing definite has resulted.

Claim departments are operated by laymen, oftentimes by lawyers. These agents often stamp a doctor's bill "payment refused", or deliberately mail him a check for less money than the total amount of his bill. They often disregard the principles of ethics with which medical men govern their professional actions. For instance, they order the patient to a doctor of their own choice without consulting the wishes of the patient and without the consent or knowledge of his attending physician. They frequently refuse treatment to the patient unless he accepts the services of an appointee of the company instead of his family

physician or a speciolist of the family physician's choice.

Just what the legal rights are in the respect to such practices of the insurance companies is for the State Industrial Commission and Supreme Court to decide.

Just how long the medical profession will tolerate the flagrant disregard of their ethical practices and moral rights, depends upon how soon the profession as a whole insists that their time honored customs and principles of professional ethics be respected.

No one can blame the companies for endeavoring to lessen their losses. It is a matter of business. At the same time, admitting that the insurance companies pay a great amount of money to doctors in Oklahoma each year, the doctor does not consider his practice a business proposition. It is a profession first, last and always. Time tried principles govern his relation to his patient whether the patient's bill is paid by himself or his employer and the doctor should force the insurance companies to realize and respect these principles.

These problems are so vital to the profession of this state that I believe that our State Medical Association should have a standing committee on Industrial Medicine and Surgery. It should be the duty of this committee to study all angles of the situation and bring before the state organization a report each year covering difficulties, disputes and proposals for improvement.

Yours very truly,
Earl D. McBride,
Oklahoma City.

## *Editorial Notes—Personal and General*

DR. H. G. CAMPBELL, formerly of Cromwell, has moved to Seminole.

DR. JOSEPH DORROUGH, formerly at Indianola, has moved to Haileyville.

DR. E. MARGO, formerly of Covington, has moved from there and is now with the E. D. McBride Clinic at Oklahoma City.

DR. E. R. BARKER, Healdton, who was operated upon at the von Keller Hospital at Ardmore recently, has recovered and returned home.

MUSKOGEE CITIZENS will vote, March 16th upon an offer of $100,000 from the Veterans Bureau for the City Hospital building, which is adjacent to the Veteran's Hospital.

McINTOSH COUNTY MEDICAL SOCIETY met February 23rd, with a program; a paper on "Metabolism" by Dr. J. H. McCulloch, Checotah, followed by a clinic with report of cases.

DR. L. S. MUNSELL, Beaver, has passed through a long and severe spell of sickness at Dallas, Texas; he expects to return home the latter part of March. Dr. Munsell is 85 years old.

DR. L. E. EMANUEL, Chickasha, returned recently from a two weeks' stay in New York and Baltimore working at the Bellevue Hospital and at Johns Hopkins.

COLONEL HUGH SCOTT, Muskogee, Medical Officer in Charge, U. S. Veteran's Hospital, was called to Washington early in March for a conference upon Bureau work.

OSAGE COUNTY MEDICAL SOCIETY met recently at Pawhuska, with a program the chief features of which were address on "Causes and Results of Endarteritis", by Dr. C. C. Conover, Kansas City, and "Prostatectomy", by Dr. Francis McCallum, Kansas City.

DR. A. Y. EASTERWOOD, Ardmore, while attending a sick prisoner at the jail, was attacked by three prisoners and suffered a broken bone in his hand while defending his medical bag from theft by the prisoners who attempted to get a quantity of morphine from the bag.

DR. C. O. VON WEDEL, Oklahoma City, delivered an address on "Cosmetic Surgery" to members of the Muskogee County Medical Society and Staff of U. S. Veteran's Hospital, Muskogee, recently. His remarks were illustrated with lantern slides.

KAY COUNTY MEDICAL SOCIETY has elected new officers for 1926: Dr. C. J. Barker, Kaw City, president; Dr. G. L. Berry, Blackwell, vice-president; Dr. M. S. White, Blackwell, secretary-treasurer, and Drs. C. L. Blanks, Ponca City, William Leslie, Blackwell, and A. S. Nuckels, Ponca City, censors.

LOGAN COUNTY MEDICAL SOCIETY in meeting January 26th, elected the following to office for 1926: Dr. C. S. Petty, president; Dr. W. H. Larkin, vice-president; Dr. E. O. Barker, secretary-treasurer; Dr. C. B. Hill, delegate, with Dr. A. A. West, alternate, and Dr. F. E. Trigg, censor; all are of Guthrie.

CRIPPLED CHILDREN of Wagoner and Cherokee Counties had their days on February 26 and 27, when a clinic was held under the auspices of the Oklahoma Society for the Care of Crippled Children at Wagoner and Tahlequah. The clinics were conducted by Drs. S. R. Cunningham, Oklahoma City and Pat Fite, Muskogee. After examination the recommendations best fitting the cases were made. The work was greatly aided by public spirited women who are lending their cooperation.

DR. PAUL P. OLIVER, who was found guilty of unprofessional conduct by the State Board of Medical Examiners, and after a hearing had his license revoked, made application to the Pottawatomie Superior Court for a writ of certiorari, which was dismissed by that court, applied to the State Supreme Court for a review, which was rendered to the effect that the Supreme Court upheld the action of the inferior tribunal.

DR. FOWLER BORDER, Mangum, won a verdict for $25,000,000 in the District Court of Beckham County recently. This is the second large judgment given Dr. Border in the case, the first being remanded for a new trial in 1919, arose over a conspiracy engineered to injure Dr. Border when as Mayor of Mangum, he incurred the enemity of certain people seeking control of the electric and power supply at Mangum. The company in question lost the Mangum franchise, Mangum finally building and operating its own plant.

DR. CHAS. R. HUME, and wife, Anadarko, who are now visiting in Burbanks, California, expect to spend the remainder of the winter in Los Angeles; they are greatly enjoying the trip.

DR. E. BRENT MITCHELL, Lawton, recently went to Indiana, where he accompanied the remains of the late Mrs. Mitchell, who was buried there.

STEPHENS COUNTY MEDICAL SOCIETY met February 25th at Duncan and heard a paper on "Pre-Natal Care of Obstetric Cases" and a clinic.

DR. C. P. MITCHELL, Chickasha, returned recently from a three weeks' course in New York, taking some special eye work.

DR. P. P. NESBITT, Muskogee, has located in Tulsa. His new office is on the 8th floor, Palace Building.

DR. L. H. CARLETON, formerly of Tulsa, has accepted an appointment to the Henry Ford Hospital, Detroit.

PAYNE COUNTY MEDICAL SOCIETY met at Ripley on the evening of March 10th. One unit of the Society, that from Cushing, was present in a body, as is usual with that enthusiastic outfit. The program, which was to come from Oklahoma City, failed to appear. Much good was accomplished, however. Various and interesting case reports were discussed for two hours.

DR. J. E. SMITH, formerly of Tipton, has moved to Denton, Texas.

CUSTER COUNTY MEDICAL SOCIETY met March 2 at the Western Oklahoma State Tuberculosis Sanatorium at Clinton with the following program: "The Tubercular Lesion", by Professor L. A. Turley, Oklahoma University; "Common Fungus Infection", with lantern slides, by Dr. E. S. Lain, Oklahoma City, and a paper by Dr. McLain Rogers, Clinton, followed by an inspection of the Sanatorium. The session was closed by a banquet in the evening at which Dr. A. S. Risser, Blackwell, president-elect of the State Association, was the principal speaker.

DR. WILLIAM BENNETT BIZZELL, installed as President of Oklahoma University at Norman, February 5th, delivered a masterly inaugural addres to an audience of hundreds of Oklahomans and visitors on that date. Of interest to the medical profession was Dr. Bizzell's recommendation that there be added to the University, a school of Dentistry and Public Health. It was his opinion that Public Health work was not being given the attention its prominence deserved.

DR. WANN LANGSTON, Dr. S. E. Kernodle, Dr. Lea A. Riely, Dr. C. J. Fishman, Dr. A. W. White, Dr. L. J. Moorman and Dr. A. B. Chase, Oklahoma City, attended the recent session of the American College of Physicians in Detroit, Michigan, and at the University of Michigan.

DR. A. L. GUTHRIE, Oklahoma City, read a paper at medical meetings at Hartshorne and McAlester last week.

DR. R. W. HOLBROOK, Perkins, has an interest in a new oil well in the Mehan area of the Cushing field. Later on, he may endow a home for his aged and destitute collegues of Payne County.

DR. P. M. RICHARDSON, Cushing, has leased new office quarters, being now occupied in one of the best equipped offices in Payne County.

DR. C. F. HOUSE, formerly of Hastings, has moved to Walters.

## SPECIAL GUEST DAY MEETING.

Garfield County Medical Society extends an invitation to all the doctors of Oklahoma to attend their Special Guest Day Meeting at Enid, Oklahoma, on March 18, 1926. We have the following program arranged:

1. Address of Welcome
   Dr. A. E. Wilkins, Covington, Okla.
   Pres. Garfield County Med. Soc.
2. Trifacial Neuraliga
   Dr. W. T. Coughlin, St. Louis, Mo.
3. Bronchoscopy
   Dr. E. M. Seydell, Wichita, Kans.
4. Medical Education
   Dr. A. S. Risser, Blackwell, Okla.
5. Ulcerative Colitis
   Dr. H. G. Walcott, Dallas, Texas.
6. Diagnosis of Diseases of the Ductless Glands
   Dr. J. L. Tierney, St. Louis, Mo.
7. Title of Paper to be announced later
   Dr. Harry W. Horn, Wichita, Kan.
8. Orthopedic Treatment of Infantile Paralysis
   Dr. Earl McBride, Okla. City, Okla.
9. Diagnosis and Treatment of Anemias
   Dr. W. W. Duke, Kansas City, Mo.

This meeting is to continue throughout the day with clinics in the morning, papers in the afternoon, banquet in the evening with moving pictures and lantern slide demonstrations after the banquet.

We feel that this is going to be one of the best programs to be given in this section of the state this year, and know you will not want to miss it. We have procured the best men available and know that they will give us something very much worth while. The Garfield County Medical Society will be host at the banquet in the evening and you may rest assured that they will give you a real meal.

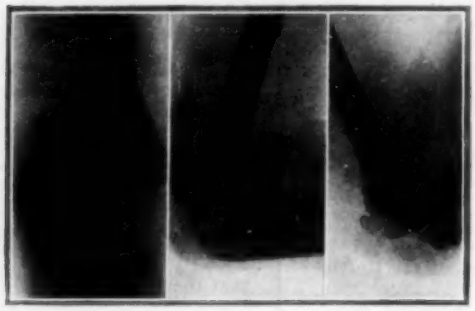
Don't forget the date, Thursday, March 18th, 1926, and plan to be here from the first session to the last.

## *ORTHOPAEDIC SURGERY*

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

### CLINICAL CASE REPORT. Supracondylar Fracture of the Elbow.

Fell from teter-totter at school with elbow back of her. Examination shows backward and inward displacement of the elbow, There is crepitus and extreme pain on motion. X-ray shows fracture transversely through the lower end of the humerus at a point immediately above condyles. The lower fragment which carries with it the radius and ulna is displaced backward, upward and inward.



1 2 3

FIG. 1. SUPRA-CONDYLAR FRACTURE OF THE ELBOW. NOTE MARKED LATERAL, POSTERIOR AND UPWARD DISPLACEMENT OF THE CONDYLES.

FIG. 2. INCOMPLETE REDUCTION. IF LEFT WITH THE LOWER END OF THE UPPER FRAGMENT PROTRUDING FORWARD IN THIS MANNER, THERE WILL BE LIMITATION OF FLEXION.

FIG. 3. COMPLETE REDUCTION. ARM PUT UP IN ACUTE FLEXION.

**TREATMENT:**

Fracture was reduced under fluoroscope and put up in acute flexion in a light circular cast which was split down the side. At the end of 3 weeks motion of elbow was started. It was 3 months before full motion returned.

**DISCUSSION:**

This particular fracture is very dangerous to handle. Interference with circulation causes such serious consequences as ischemic paralysis. Failure to properly reduce permanent limitation of motion in the elbow and causes lateral angulation (gunstock deformity) which is very embarrassing.

To insure complete reduction, the case should be taken immediately to the X-ray. Anesthetic is absolutely necessary. The fluoroscope may be used or plates made when reduction seems satisfactory. To reduce the fracture, the arm is first hyperextended at the elbow and traction applied. Lateral deviation is corrected. The thumb is then placed just above the olecranon process, and, acting as a lever, the lower fragment is pushed forward onto the shaft of the humerus. While pressure is continued the elbow is slowly flexed to an acute angle. One should not be satisfied until the lower fragment is brought completely forward in line with the anterior border of the humerus as seen in the lateral X-ray view. Protruding forward of the lower end of upper fragment causes interference with circulation and bone block in acute flexion.

The arm may be strapped in acute flexion with adhesive or plaster applied and split to allow for swelling.

### PREDISPOSING CAUSES OF PAINFUL FEET

A realization of the relative factors in etiology is of first importance in any human illness. In foot symptoms, it is especially so as the cause can often be traced directly to its source, and by its elimination, local treatment becomes simple and relief of symptoms astonishingly prompt.

The indirect causes of foot symptoms must be detected through careful inquiry into the history of the general health and thorough physical examination. The amount of reserve elasticity and power of regeneration from fatigue varies directly in proportion to the nutrition of the muscle cells so that perfect muscular balance can be maintained only through a normally functioning general system.

In other words, aching feet may be the first warning to an indivirual whose urine if examined would show sugar, or to one whose chest, if carefully gone over, would reveal signs of incipient tuberculosis. An attack of influenza or other acute illness is frequently found to precede symptoms.

Flatness of the arch in a foot therefore does not indicate the amount of pain and disability. If there is deformity or improper posture present, strain is of course more likely to occur when burdens are thrust upon the feet, but if the general system is functioning properly and has accounted for the deformity by compensating for its disadvantages, no symptoms can occur. When pain does arise, therefore, it is just as important to seek the de-compensating factor as it is to apply local support,

The following questions should be asked when obtaining a history in a case of painful feet.

1. How old are you?
2. What is your occupation?
3. Are you overworked?
4. Are you on your feet a great deal?
5. What diseases did you have in childhood?
6. Did you have scarlet fever?
7. Did you have typhoid fever in childhood?
8. Do you have tonsillitis?
9. Are you married?
10. Any still births or miscarriages?
11. (Men) When did you have gonorrhea? Did the testicles swell?
12. Have you been increasing or losing in weight in the past year?
13. How many hours do you sleep?
14. Do you cough?
15. Do you have night sweats?
16. Do you get nervous and excited easily?
17. How are your eyes?
18. Do you have headache often?
19. Are you habitually constipated?
20. Have you an unusually big appetite?
21. Do you urinate frequently or in a great amount?
22. Have you had a serious spell of sickness in the past five years?
23. Have you had the "Flu"?
24. Do you get short of breath on moderate exercise?

25. Do you have pains in other joints?
26. Do your feet hurt more after standing?
27. Do your feet hurt you at night or on rising in in the morning?
28. Does the pain lessen after resting?
29. Just where is the pain in your feet?
30. Does the calf of your leg ache?
31. Do your ankles swell?
32. Is your heel paniful upon pressure?
33. Is the pain in the front part of your foot?
34. Is the pain in the arch of your foot?
35. Do you have backache or painful hips?
36. Have you always worn high heeled shoes?
37. Have you recently changed to low heeled shoes?
38. Do you go barefooted about the house? Or do you wear house slippers with no heels?
39. Have you injured your foot in any way recently?

**SYSTEMATIC DIAGNOSIS OF BACKACHE. Edward T. Wentworth, M.D., Rochester, N. Y. The Jour. of Bone and Joint Surgery. January, 1926.**

In this article chief consideration is given to the differential diagnosis of four types of traumatic back, namely, sacro-iliac strain, sacro-iliac subluxation, lumbo-sacral strain, fractures and dislocations in the lumbo-sacral region; to static backs, often seen in those unfit for the overstress of life; and to orthostatic backs.

The general tendency is to make a diagnosis then look for corroborative findings. This should be replaced with systematic procedure in working out a case.

The article consisting of three sections takes up first a discussion of the history in cases of backache and its bearing on diagnosis; secondly, a brief discussion of the clinical entities in low back pain, and third a list of information obtained from 750 cases of low back pain in an attempt to clarify the hitherto muddy situation in diagnosis of low back cases.

**A NOVEL METHOD OF REDUCING A DISLOCATION OF THE ELBOW. A. S. GUBB, Brit. Med. Jour., July 11, 1925, p. 60.**

"The patient had a typical dislocation of the right elbow, the forearm being displaced forward." (?) Standing on the right side of the patient, Prof. Curtillet grasped the elbow with both hands, leaving the forearm free. Having raised the limb to an obsuse angle with the trunk, he then suddenly, taking the patient by surprise, imparted to the limb a violent flail-like movement, whereupon the displaced forearm slipped back into its place. There was considerable momentary pain. He said he had employed this method many times with invariable success.—F. G. Hodgson, M. D., Atlanta.

**SEPARATION OF THE ACROMIOCLAVICULAR JOINT. By Barclay W. Moffat. Surgery, Gynecology and Obstetrics, July, 1925, p. 73.**

Dr. Moffat does not belive in the efficacy of adhesive strapping, nor does he deem it advisable that the joint in such a condition should be stiffened. He recommends open operation and stitches the joint in apposition by means of subperiosteal chromic catgut, after which a plaster spica with the arm at ninety degrees abduction is applied. Spica is removed in three weeks.

A report of eight cases is given and the author's conclusions are here quoted.

"CONCLUSIONS. 1. Strapping is mechanically inadequate to restore function of joint in all cases. 2. The operation of choice is curettage and suture of the two bones resulting in fibrous ankylosis of the joint is undesirable."—H. A. Pingree, M. D., Portland, Maine.

**CLINICAL STUDY OF RHEUMATOID ARTHRITIS. A. H. Douthwaite. Brit. Med. Jour., June 27, 1925, p. 1170.**

Observations based upon examination of fifty patients, thirty-eight of whom were females. Gradual deterioration of health preceded the pain in every case. In twenty per cent of cases an illness probably precipitaed the onset of the disease. In no case was more thon one joint involved in the original attack. The small joints of the spine are often involved early in the disease. Skin is usually moist, often discolored or pigmented. Cardio-vascular system: The blood pressure was invariably low. There was marked daily variation in the pulse rate, but rapid pulse was not constant. No definite blood picture was obtained. Leucopenia and increase in lymphocytes was observed. Muscular weakness and wasting appeared constantly. Gastro-intestinal; achlorhydria or marked hypro-chlorhydria was not observed. Gastroptosis and enteroptosis were frequently observed by radiograph. Dental and tonsillar infection was the most frequent focus of infection.

## *EYE, EAR, NOSE and THROAT*

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

**An Operation for Glaucoma. Stefansson J.: Am. J. Ophth., 1925, 3 s., viii, 681.**

Stefansson has apparently been able to obtain foreign-body drainage of the anterior chamber successfully and without undue reaction. A good wire loop or a gold tube is inserted into the anterior chamber subconjunctivally. A conjunctical flap is made as for a trephine, a keratome is introduced into the anterior chamber, and then a T-shaped wire or tube is inserted so that the upper part of the T lies close to the limbus. The vertical arm must be long enough to insure communication with the aqueous.

Stefansson frankly records his difficulties. He reports in detail twenty-five cases. The treatment was successful in 78 per cent, a partial failure in 13 per cent, and a complete failure in only nine per cent.

**Eye Injuries and Interstitial Keratitis. Spicer, W. T. H., and Pollock, W. B. I.: Brit. M. J., 1925, 373.**

Spicer says that interstitial keratitis may be closely associated with an injury. The injury is often trivial and may or may not have caused a

breach of surface. Spicer obtained a history of injury in three per cent of his cases and Butler found such a history in twenty per cent.

If injury is the cause of the attack, it is impossible to give a satisfactory explanation of the appearance of intersitial keratitis in the other eye, but if injury is not the direct cause the explanation is not difficult.

The author believes that interstitial keraitis is always syphilitic, that the spirochaetes are present in the cornea and cause the disease when they reach a certain degree of maturity. When they have become mature any injury, however minor, may precipitate an attack or an attack may occur in the absence of a stimulus and in spite of anything that may be done. If the spirochaetes are not mature, injury will not precipitate an attack.

Pollock gives a brief review of the symptoms, diagnosis, and treatment of interstitial keratitis.

**Phlyctenular Conjunctivitis and Keratitis: Causes and Prevention. Harman, N. B.: Brit. M. J., 1925, ii, 379.**

That phlyctenular lesions are the frequent cause of permanent impairment of vision is shown by the fact that of 699 pupils in the schools for blind and myopic children in London whose disability was caused by inflammation of the surfaces of the eye, 242 had suffered from phlyctenular keratitis. This condition is rare amoung the middle classes and common among the poorer classes. Children who are well fed on a diet containing a large amount of fat are less likely to develop it than those who are not so fed. The condition is uncommon in infants under one year of age, increases in frequency up to the fifth year, and then becomes less frequent. At the age of five years, the mouths, noses, and throats of underfed children are often the sites of infection causing irritation of the fifth nerve.

Sixty-six per cent of the lesions are found in the lower and lower outer sector of the limbus. As the majority of unbroken phlyctenules are sterile, the lesion is probably not due to microbic invasion of the ocular tissue. Histologically, the phlyctenule is a blister.

The author concludes that the disease is a manifestation of some general debility and not a specific infection of the tissues of the eye. Definite evidence of tuberculosis is found in a very small percentage of cases. Throat inflammations are more common in children with phlyctenular lesions than in those with other types of conjunctivitis. In the author's opinion the primary general condition is not tuberculosis but feebleness due to the lack of proper food and perhaps also the lack of sunlight and air.

The prevention of phlyctenular lesions is bound up with the general social betterment of the people, the clearing up of throat and mouth infections, and the establishment of open air schools for dehabilitated children.

**A Clinical Study of Bone Conduction After the Method of Runge. Downey, J. W., Jr.: Arch. Otolaryngol., 1925, ii, 260.**

The author made a clinical study of bone conduction which was a repetition of the investigations of Runge. In applying the test in every day clinical work Downey has found it of distinct value in the diagnosis of complete and partial stapedial fixation and in the differentiation of conduction and perception deafness. In the physical laboratory with definitely controlled air pressure it can be shown that bone conduction can be increased up to a certain maximum in direct proportion to the amount of pressure employed.

The Bezold theory concerning increased bone conduction has never been fully accepted; direct craniolabyrinthine transmission of sound waves based on sympathetic resonance is not impossible, and changes in the tension of intralabyrinthine structures must take place. The author believes that in differential diagnosis the estimation of hearing by bone conduction is of distinct value.

**The Pulpless Tooth from a Bacteriological and Expermimental Standpoint., Haden, R. L.: J. Lab. and Clin. Med., 1925, x, 965.**

A very high percentage of teeth which are negative in the roentgenogram harbor infection. Therefore the roentgenogram should never be depended upon to eliminate a tooth as a possible focus of systemic disease.

In the author's studies a very large percentage of the teeth which were positive in the roentgenogram did not harbor any infection or only such slight infection that it could not have been a factor in systemic disease at the time the culture was taken. In such cases, the infection has probably run its course and had become bacteria free.

The periapical tissues of a certain percentage of pulpless teeth, which are either positive or negative in the roentgenogram are sterile when they are cultured in glucose-brain broth. This does not prove that they are really sterile, since some other method of culture might reveal organisms. The findings suggest, however, that a pulpless tooth is not necessarily infected.

The bacteria concerned in chronic foci are pathogenic as they are able to produce lesions in animals when they are injected intravenously.

In certain cases, the bacteria from chronic foci demonstrate an unmistakable tendency to localize in certain parts of the body. These cases afford valuable experimental proof of a casual relationship between chronic foci and systemic disease.

## *UROLOGY and SYPHILOLOGY*

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

**Treatment of Syphilis Complicated by Aoritis or Aneurism.**

I would like to add a word to the already clouded field of the management and treatment of cases of leutic aneurism and aoritis. It occurs to me that we are following more or less blindly some oft repeated statements about these conditions.

Now, if we will pause a moment and consider the histo-pathology of luetic lesions we should know that they are all alike, except for the structures involved and the extent of the lesion. We will remember that the hyperplasia and necrosis, (when there is no secondary infection) is at the expense of the new tissue, plasma cells and con-

nective tissue, and even while a lesion is present the connective tissue cells therein do not constitute a scar. On treatment they are absorbed leaving only the normal tissue.

This is fundamental in the development and absorption of luetic lesions. With these facts in mind, why should we fear to use neo-salvarsan in this type of cases? Of course I do not suggest a radically intensive treatment, it is good judgment to study well and not overtreat any luetic where there be aortitis or plain secondaries.

## RELATION OF THE CLINICIAN TO THE LABORATORY.

The following remarks of Dr. Henry C. Ricks, State Bacteriologist are pertinent to all of us, and so particularly do they apply to the Urologist, that I quote him verbatim.

Laboratory reports, especially as pertaining to Wassermann, stains for Gonoccoccus, Bacillus Diphtheria and T. B., should be very carefully considered in the light of clinical evidence. Negative tests do not necessarily mean absence of disease, especially when methods of taking specimens are considered. In latent Syphilis where a negative Wassermann results, a provocative treatment will often bring about a positive reaction.

The clinician makes a grave mistake in giving laboratory reports to his patients, Wassermann and Gonococcus especially. He creates a dissatisfaction among the laity who understand nothing of laboratory procedure, by so doing. Patients should never be sent to a laboratory to have blood for Wassermann taken, as that breaks a line that should be kept intact. The report should always go to the clinician and be kept by him. Duplicate tests should not be run by laboratories without a request from the clinician. The report should contain conservative information with regard to specificity of the test performed. The report should be made simple so that it can be readily interpreted by the busy practioner.

The clinician should know the ability of his laboratory staff and use only laboratories using the same procedure with regard to technique.

## Insufficient Treatment of Syphilis.

It seemed for a while that the medical profession had begun to understand the value of sufficient treatment for the syphilitic but now we are again beginning to find numerous cases which have been under-treated. There are, I think, several good reasons for this state of affairs.

First, before the war we were using salvarsan almost exclusively, and, because of the technique, most of the syphilis was treated by the specialist, then neo-salvarsan came into almost universal use; the different manufacturers supplied ampules of sterile distilled water, which made the administration of the drug very easy. The natural reaction to this was, of course, for each of us to treat our own syphilitics. That made it very fine for both doctor and patient, because it meant money for the doctor, and time and convenience for the patient.

But this is only a small part of the treatment. How many busy practitioners can take time to do a urine analysis once every week?

How many can be in their office with sufficient regularity that they may see a patient three times a week?

How many have access to ample supply of different doses or make their dilution in the solution if using the ampule?

How many can keep their syringes and needles clean and free from sediment, even though sterilized?

How many can take time to work out the size doses needed for each individual case?

And, not the least of all, how many will take the time to answer all the questions and treat the patient's mental disturbances when they are in a hurry to get out to see the Smith baby who is threatened with diphtheria?

Now, these things must be problems to the busy man when all except the latter are problems to the specialist.

And the result is: the patient clears up, feels good, fails to return at the appointed time, the doctor loses contact then no more is heard of him until he appears with some of the late manifestations.

Second, another reason for insufficient treatment lies at the door of the specialist. In our effort to impress upon the medical profession the importance of thorough treatment we are often understood to mean that each and every case should have the same, rigorous, intensive courses.

Nothing could be more wrong. Every case should be studied and treated as an individual condition.

THE TREATMENT OF SYPHILIS IS NOT STANDARDIZED. The nearest to standardization is that it must be treated in cycles or courses to the point of saturation, rested, re-saturated, etc.

Too frequently a case is over-treated then some of the usual accidents become apparent, the careful observer then comes to the conclusion that his patient had better be inadequately treated than otherwise.

This may sound like a plea for all cases to be sent to the specialist—it is not, were that the case I would keep still because more and more under-treated cases are coming all the time. The point I do want to impress, is that there is a great deal more to the treatment of syphilis than the use of neosalvarsan and mercury, and that there is a growing carelessness on the part of the busy practitioner in completing the treatment.

## Bismuth Treatment for Syphilis

Sufficient time has elapsed and enough has been written on the use of bismuth in the treatment of syphilis that we should have some sort of a definite idea of its relative status.

After using bismuth for two years in several hundred cases and reading most of the literature the writer has arrived at the following conclusions:

First: (a) Bismuth is superior to mercury throughout the whole field of antiluetic treatment.

(b) Bismuth in certain conditions is the equal of neosalvarsan.

(c) Bismuth can be used with safety in certain instances where either mercury or neo might be unsafe.

Second: Bismuth is relatively harmless and may be used with safety.

It has become routine with me to use it in the third course on luetics. After two previous courses the particular action of the drug is indicated because at that time one would expect the T. Palladium, if present, to be buried or localized in some gumatous formation. Bismuth does not have a high degree of toxity, though there have been cases of bismuth poisoning it is less likely than the other heavy metals and this seems to be confined to the alimentary tract and kidneys.

Stomatitis is liable to occur, the familiar blue line, fetid breath, and swollen gums, that may readily ulcerate, gives us our greatest worry.

There are so many opinions on the amount of kidney damage it leaves one rather bewildered, however, I feel safe in saying that if there is any renal irritation it is transitory. In my own experience I have never seen a case of nephritis develope.

## *BACTERIOLOGY and PATHOLOGY*

Edited by Wm. H. Bailey, A.B. M.D.
Wesley Hospital, Oklahoma City

### THE ETIOLOGY OF CHRONIC ULCERATIVE COLITIS. Jacob A. Bargen, M.D., and Rach H. Logan, M.D., Rochester, Minn. Archives of Internal Medicine, December 15, 1925.

A Gram positive, lancet shaped diplococcus, growing in twos and fours (has been observed with a capsule occasionally, thus morphologically resembling a pneumococcus) has been isolated in eighty per cent of these cases. The subsequent injection of cultures of these organisms into rabbits and dogs have produced an ulcerative condition of the colon. This occurred in forty-five rabbits out of 139 rabbits injected. Occasionally this organism produced empyema of the gall bladder. Cultures from this source caused an acute ulcerative colonitis in dogs.

The possibility that gall bladders might act as a focus for harboring these diplococci made it seem reasonable that other distant foci in human beings might be of importance.

The lesions in their early stages have appeared as miliary abscesses. A few days later superficial ulceration of the tops of the abscesses and their confluence produce the typical granular appearance. From these lesions, a pure culture of the diplococcus has been isolated.

The authors are inclined to believe that it would seem logical that some form of immunization against this diplococcus offers hope for patients suffering from chronic ulcerative colitis.

From these studies it would seem that the hope of control in this disease lies in (1) removal of distant foci of infection, (2) immunization in some form against the causative organisms, (3) local and topical application and irrigation. (4) the empiric use of drugs, such as tincture of iodine, (5) kaolin by mouth, and a non-irritating yet general diet.

### Anaphylactic Reactions Following Administration of Serums to Children Previously Immunized Against Diphtheria. Chester A. Stewart, M.D., P.H.D., Minneapolis, Jour. A. M. A., Jan. 9, 1926.

The administration of diphtheria toxin-antitoxin to render children immune to diphtheria is unquestionably a valuable procedure, although having the distinct disadvantage of sensitizing these individuals to horse serum. Subsequent administrations of serums as therapeutic and prophylactic measures undoubtedly are accompanied with the danger of anaphylactic reaction.

The author cites cases having anaphylactic reactions following the administration of prophylactic injection of antitetanic serum, scarlatinal antistreptococcic serum and injection of diphtheria antitoxin, to children who had previously had immunizing doses of diphtheria toxin-antitoxin. The reactions varied in intensity.

Therefore attention is called to danger of the occurrence of anaphylactic reactions following the administration of various antitoxins containing horse serums to children who have been sensitized to this serum through diphtheria immunization.

A method is now being perfected by means of which children may be immunized against diphtheria without the employment of serums.

### Treatment of Fractures. Editorial by J. L. Yates, Surg. Gyne. and Obst., Nov., 1925.

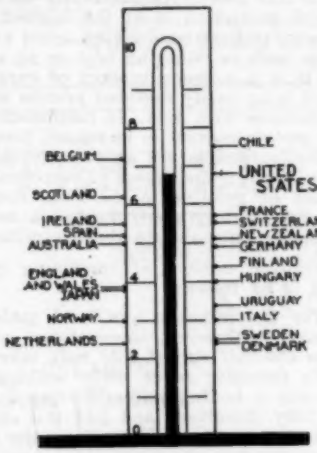
Although the subject does not indicate it, much of the article discusses the principles of the pathology and physiology of bone repair which will permit its classification in this section.

The author says, "The aim of all therapy is to expedite complete recovery of function." "It is atttained when procedures are in harmony with natural processes which develop powers of resistance and defense, growth and repair". How often does fracture therapy lose sight of, or disregard this physiological truth. "Atrophy follows inactivity." "Atrophic cells are deficient in powers of growth and repair." "The capacity of atrophic bone to produce callus is restricted." Reasoning in this way he says that immobilization is contra-indicated when avoidable, especially in children. Callus matures with exercise and becomes more compact and thicker along lines of stress. The earlier callus is subjected to moderate stress the sooner it matures. Immobilization should not exceed the requirements surgical experience has found necessary to hold the fragments in approximation and this should be without avoidable restriction in local and general activities. Active motion can lead to more accurate reapposition of fragments after fracture of some of the bones in the hands and feet than can be obtained by manipulation and immobilization. The entire editorial is well summed up by the following sentences. "Reapposition, fixation and immobilization are needed in some fractures. The need has been over-estimated," "Active motion is needed in treating all fractures. The need has been understimated."

# BUREAU OF MATERNITY AND INFANCY
## STATE DEPARTMENT OF PUBLIC HEALTH OF OKLAHOMA

LUCILE SPIRE BLACHLY, Director

**The Maternal Mortality Thermometer**
(The Children's Bureau)




**Deaths from Puerperal Causes per 1000 live births.**
(From latest figures available, March 15, 1923)

Notice where the United States stands—6.8 per 1000. Why?

Where does Oklahoma stand?

Do we know? Why not?

How many mothers lost their lives from child birth or causes associated with child birth in your town or county in 1925? Colored? White? Indian? Under 15? Between 15 and 40? After 40?

How many of these were cared for by physicians? By midwives? Left unattended?

How may of these had careful prenatal care?

Of those who did not whose fault was it, the patient's or the physician's? Or both?

What caused their death?

Eclampsia? Hemorrhage? Septicemia? Something else?

How many of these were instrumental deliveries?

How many of these had pituitrin administered? What dosage?

**What do you think of the idea of each county medical society's making a careful, unbiased, unprejudiced, survey of its own county in order to find out where the trouble lies?**

Mothers are important folk. Who has ever seen one that could be spared?

The Bureau of Maternity and Infancy would be glad to have suggestions from every physician in the state relative to such a study.

### What *Is* Good Prenatal Care

It was found in October, 1924, when the directors of the Bureaus of Materity and Infancy and Child Hygiene of the several states met in Washington, D. C., there seemed to be no agreement among the various states and none apparently among the various communities, towns and cities within the single state as to what is meant by *good* prenatal care.

A committee selected from the various directors present met, discussed the matter and decided to ask the Children's Bureau of the U. S. to draw up standards of prenatal care. Dr. DeNormandie, Professor of Obstetrics of Harvard University was appointed chairman of this committee. He, together with the Chief of the Children's Bureau selected the following as members of the Committee:

Dr. Fred L. Adair, associate professor of obstetrics and gynecology at the University of Minnesota Medical School; Dr. Rudolph W. Holmes, associate professor of obstetrics and gynecology at the Rush Medical College, University of Chicago; Dr. Ralph W. Lobenstine, chairman of the medical advisory board of the Maternity Center Association of the City of New York; Dr. Frank W. Lynch, professor of obstetrics and gynecology, University of California Medical School; Dr. Florence L. McKay, director of the division of maternity, infancy, and child hygiene, Department of Health of the State of New York; Dr. James R. McCord, professor of obstetrics and clinical gynecology, School of Medicine, Emory University, Atlanta, Ga.; Dr. C. Jeff Miller, professor of obstetrics and clinical gynecology, Tulane University of Louisiana School of Medicine; Dr. George Clark Mosher, chairman of committee on maternal welfare, American Association of Obstetricians and Gynecologists; Dr. Otto H. Schwartz, associate professor of obstetrics, Washing-

ton University Medical School, St. Louis, Mo.; Dr. Annie S. Veech, director of the Bureau of maternal and child health, State Board of Health of Kentucky.

As a result the Children's Bureau now has available through the Bureau of Maternity and Infancy of the several states Bureau Publication No. 153 "Standards of Prenatal Care", which your Bureau is planning to send you in a few weeks together with a second pamphlet "Standards for Child Health Examinations".

L. S. B.

## THE GROWING IMPORTANCE OF GELATINE IN INFANT FEEDING

Some time ago, Dr. Joseph Leidy, of Philadelphia said: "The combination of gelatine and milk in infant feeding was long used by my father and the late Dr. W. Pepper. I have continued to use it during the past thirty years, and am of the opinion that it gives results when many other combinations fail."

In recent months the growing interest of the medical profession in gelatine has been noticeable. Doctors are reporting gratifying successes in preventing such infant ailments as milk colic, regurgitation, vomiting, diarrhoea, excessive gas formation and constipation by one per cent addition of gelatine to the milk diet.

Thomas B. Downey, Ph. D., Fellow of the Mellon Institute, Pittsburgh, has by standard feeding tests, determined that the addition of pure, plain unflavored gelatine increases the nourishment obtainable from mik by about twenty-three per cent.

In discussing the digestibility of milks, especially by infants and young children, Alexander and Bullowa have pointed out that the protein content may not be considered as a unity because it is composed of two proteins, casein and lactoalbumin with entirely dissimilar properties. Casein is an irreversible colloid exceedingly susceptible to coagulation by acid and rennin, while lactoalbumin is reversible and serves to protect the former.

Analysis shows that mothers' milk contains a high proportion of lactoalbumin, the casein being adequately protected. Mother's milk is resistant to coagulation by acids and rennin and its greater acceptibility as the food for the infant is reflected by the low mortality where the young are breast fed. On the contrary, cow's milk contains a high proportion of casein and relatively little lactoalbumin; it is poorly protected. In consequence, the casein of cow's milk is very susceptible to coagulation by acids and rennin. The mere coagulation of the casein is not the whole story, because the coagulum carries down much of the fat present, yielding masses that have a tendency to cohere and are of a texture that is quite resistent to penetration by the digestive juices. The voiding of such masses occurs too frequently in artificial feeding; nutrients are lost to the organism and it is quite probable that decomposition products of an undesirable nature are formed within these undigested curds.

This is in way a reflection on the great nutritive value of cow's milk which is indispensible but simply emphasizes the deterrent condition it meets in the human stomach which must be neutralized to insure the complete assimilation of the milk nutriment.

From this viewpoint an obvious modification in artificial feeding is the protection of the unstable casein by the addition of suitable protective colloids.

It is of interest to give careful attention to gelatine in this place, As previously mentioned, its colloidal protection is of the highest order. It is also an excellent emulsifying agent and may function as such in either an acid or an alkaline medium. It is a common product of exceptional purity, and is an easily digested protein which is readily combined with milk. In combination with milk, the protein content is increased, food value is increased, volume is not appreciably increased and digestibility is increased. Theoretically the employment of gelatine in the child dietary is sound, and laboratory experimentation and clinical experience substantiate these conclusions.

The approved method of combining gelatine with milk is as follows:

Soak, for ten minutes, one level tablespoonful of pure, unflavored, unsweetened gelatine, (Knox) in one-half cup of cold milk taken from the baby's formula; cover while soaking; then place the cup in boiling water, stirring uptil gelatine is fully dissolved; and add this dissolved gelatine to the quart of cold milk or the regular formula.

It must be remembered that there is a great difference in gelatine. Realizing the importance of absolute purity in any gelatine that is combined in milk or used in any way in the dietary, the laboratories of the Charles B. Knox Gelatine Company maintain a strict and constant control of the Production of Knox Sparkling Gelatine. No sweetening, artificial flavor, or coloring, is ever added to this product.

ANNUAL MEETING
OKLAHOMA
STATE MEDICAL
ASSOCIATION
AT
OKLAHOMA CITY
JUNE 22-23-24
IN THE
MASONIC TEMPLE

610.5
O-5

Annual Meeting MASONIC TEMPLE OKLAHOMA CITY June 22, 23, 24

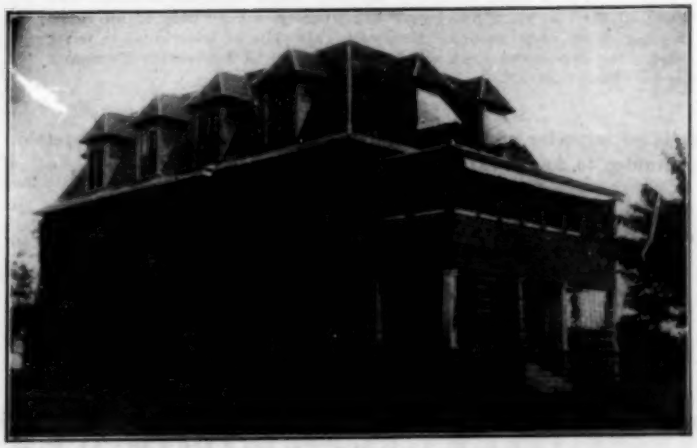
# THE JOURNAL
OF THE
## OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XIX, NUMBER 4 APRIL, 1926 $4.00 Per Year. 40c Per Copy

Published Monthly at Muskogee, Oklahoma, under direction of the Council.

TERRELL'S LABORATORIES
North Texas and Oklahoma Pasteur Institutes
PATHOLOGICAL BACTERIOLOGICAL SEROLOGICAL CHEMICAL
X-RAY and RADIUM
TULSA - - FORT WORTH
OKLAHOMA
Tulsa - Muskogee
TEXAS
Ft. Worth-Dallas-Ranger

The DUKE SANITARIUM



C. B. HILL
Superintendent

Bertha A. Bishop
Head Nurse

For the Treatment of NERVOUS and MENTAL DISEASES, Drugs and Alcoholic Addictions
Special Attention Given to Hydrotherapy, Dietetics and Rest Cure
A STRICTLY ETHICAL INSTITUTION
For Further Particulars Address
THE DUKE SANITARIUM, GUTHRIE, OKLAHOMA

TABLE OF CONTENTS PAGE IV

UNIVERSITY OF MICHIGAN
GENERAL LIBRARY

# *Piracy Still Exists*

**One doctor describes the modern pirates as "nefarious blackmailers, the ever grasping base character assassins and what not that infest and permeate more or less every community and not the least, the shyster lawyer".**

**Read what one of your colleagues says regarding Medical Protective Service in combating such piracy.**

**"As I review the case from beginning to end I am filled with admiration at the expert handling of the case. It certainly gives the professional man a feeling of great security to know he has the protection of a legal company against these hold-up people, who prey upon the professional man at each and every opportunity, where they think there is a possibility of getting some easy money. However, this type of individual is what we are up against, and it is a godsend that we have the Medical Protective Company who know how to handle these fakers."**

**A malpractice charge is no respecter of persons; the time of the attack cannot be foretold; past immunity is no guarantee to future safety.**

*For Medical Protective Service have a Medical Protective Contract*

**THE MEDICAL PROTECTIVE COMPANY OF FORT WAYNE, INDIANA**

# Prompt

Telegraphic service on Wassermanns. Any other reports wired on request.

**"CITY SERVICE THROUGHOUT THE STATE"**

**Medical Arts Laboratory Oklahoma City**

## INDEX TO CONTENTS

Vol. XIX APRIL, 1926 No. 4

### ORIGINAL ARTICLES

PAGE

Cirrhosis of the Liver
R. Q. Atchley, M.D.
Tulsa ..... 84

Laennec
Lea A. Riely, A.M., M.D., F.A.C.P.
Oklahoma City ..... 86

The Problem of Rural Obstetrics and Pediatrics
Lucile Spire Blachly, M.D.
Oklahoma City ..... 90

Principles in the Management of Toxic Goitre
Marvin E. Stout, M.D.
Oklahoma City ..... 96

Nervous Mechanism of Digestion
Arthur W. White, A.M., M.D., F.A.C.P.
Oklahoma City ..... 98

### EDITORIAL

On Mercurochrome—220 Soluble ..... 102
The Annual Meeting, June 22, 23, 24 ..... 102
Cancer and the Internist ..... 103
The Dallas Meeting of the A.M.A. ..... 103
Correspondence—State Industrial Insurance Practice ..... 101
Editorial Notes—Personal and General ..... 103
Obituary ..... 104, 105
Book Reviews ..... 105
Abstract Departments:
Orthopedic Surgery ..... 106
Tuberculosis ..... 107
Eye, Ear, Nose and Throat ..... 107
Bacteriology and Pathology ..... 108
Urology and Syphilology ..... 109
The Annual Meeting—Committees ..... 110
State Officers and Committees ..... 111

**Woodcroft Hospital**

*Founded 1896 by Dr. Hubert Work*

**Nervous and Mental Diseases, Drug Addiction, Chronic Invalidism**

Ideal Climate, Modern Methods, First Class Accomodations, Rates Reasonable

**DR. C. W. THOMPSON**
Superintendent
Pueblo, Colorado

**RADIUM RENTAL SERVICE**
**BY**
**THE PHYSICIANS RADIUM ASSOCIATION OF CHICAGO, Inc.**

Incorporated under the laws of Illinois, not for profit, but for the purpose of making radium available to Physicians to be used in the treatment of their patients. Radium loaned to Physicians at moderate rental fees, or patients may be referred to us for treatment if preferred.

Careful consideration will be given inquiries concerning cases in which the use of Radium is indicated

**The Physicians Radium Association**
1100 Tower Bldg., 6 N. Michigan Ave.
CHICAGO, ILL.

Telephones: Central 2268-2269
Managing Director: Wm. L. Brown, M. D.

BOARD OF DIRECTORS
William L. Baum, M. D. Wm. L. Brown, M.D.
Frederick Menge, M.D. Walter S. Barnes, M.D.
Louis E. Schmidt, M. D.

**As a General Antiseptic**

in place of

**TINCTURE OF IODINE**

TRY

**Mercurochrome —220 Soluble**

(Dibrom-oxymercuri-fluorescein)

2% Solution

It stains, it penetrates, and it furnishes a deposit of the germicidal agent in the desired field.

It does not burn, irritate or injure tissue in any way.

**HYNSON, WESTCOTT & DUNNING**
Baltimore, Maryland